**Project Summary:**

1. Standards Indicators:

* Make and test conjectures about characteristics and properties (e.g., sides, angles, symmetry) of two-dimensional figures and three-dimensional objects.
* In circles know how central angles and inscribed angles are related to their intersected arcs, and be able to use this knowledge to find unknown angle measures or arc measures.
* In a circle, be able to find the measure of an angle formed by two tangents, two secants, or a secant and a tangent using the measures of the intercepted arcs
* In a circle, know how the angles formed by intersecting chords are related to the intercepted arcs.
* Know how to determine segment lengths in circles of tangents, secants and chords.
* Formally define and explain key aspects of geometric figures, including: circles (radius, diameter, chord, circumference, major arc, minor arc, sector, segment, inscribed angle.)
* Solve problems involving chords, radii and arcs within the same circle.
* Determine the measures of central and inscribed angles and their associated major and minor arcs.
* Graph the quadratic relationship that defines circles.

2. Throughout the unit I utilized a lot of visual representations to help enhance lectures. I also incorporated a discovery-based investigation.

3. I utilized various geogebra demos as well as other website demos that I used with a Mimio and Projector.

**Reflection:**

1. I think the technology was a great fit for the lesson. It gave the students a chance to make conjectures and then use their observations of the dynamic demonstrations as well as reasoning skills to arrive at conclusions. It brought some of the theorems and angle relationships “to life” and gave the students something more to connect to than just pictures and definitions by being able to see how these relationships were maintained if parts were moved or changed.

2. I would have liked to use more of a discovery approach, and initially had planned to do this for my graphing circles investigation. I wanted to do it as a geogebra lab where students would investigate the equation of a circle by using dynamic demonstrations that showed what happens to the graphs of circles when different parts of the equations are changed. I, however, was unable to reserve a computer lab so I had to come up with something on my own covering the same ideas but using just pictures of graphs. To incorporate more discovery using the other demos would involve more computer lab usage as well.

3. I plan on sharing a lot of these websites and demos by creating a group on Diigo that I will share with the math department.

**Student work:**

I don’t’ really have any student created samples to share since I was unable to do any labs. Some of the links below are to demos I used. There are also several other files I have saved on computer.

<http://demonstrations.wolfram.com/TangentsToACircle/>

<http://www.geogebra.org/en/upload/files/english/Guy/Circles_and_angles/Inscribed_Anlge.html>

<http://www.explorelearning.com/index.cfm?method=cResource.dspView&ResourceID=184>

<http://www.geogebra.org/en/upload/files/english/Guy/Circles_and_angles/Inscribed_Quadrilateral.html>